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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,019	12/22/2005	Norishige Kawaguchi	501/43589/Case 102-PCT-US	3950
279 7590 06/25/2008 Trexler, Bushnell, Giangiorgi, Blackstone & Marr, Ltd. 105 West Adams Street Suite 3600 Chicago, IL 60603			EXAMINER COHEN, JODI F	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 06/25/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/543,019	<b>Applicant(s)</b> KAWAGUCHI ET AL.	
	<b>Examiner</b> Jodi Cohen	<b>Art Unit</b> 1791	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/21/2005</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

METHOD FOR PRODUCING POLYOLEFIN-POLYAMIDE RESIN COMPOSITION

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amimoto et al. '104 (US 5,424,104) and further in view of Yamamoto '570 (JP 11-106570).

With respect to claim 1, '104 discloses a method of manufacturing a polyolefin-polyamide resin composition, comprising melting/kneading, extruding, and drafting (Col 14; lines 49-66) a polyolefin (Col 2; lines 43-46) and a polyamide (Col 2; lines 30-42, 47-55). Furthermore '104 discloses a silane-coupling agent may be incorporated (Col 14; lines 16-20) as well as multiple antioxidants (Col 3; lines 7, Col 13; lines 11-14). '104 specifically states that antioxidants with a melting point of 70-170 °C such as 4,4'-thiobis(3-methyl-6-tert-butylphenol) and antioxidants with a melting point of 180-300 °C such as 4,4'-butylidenebis (3-methyl-6-tert-butylphenol) or 1,1,3-tris(2-methyl-4-hydroxy-5-tert-butyl-phenyl)butane (Col 11; lines 46-68, Col 12; lines 1-68). See also Examples 6-11. However '104 does not disclose dispersing the resin in the form of fibers with an

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average fiber diameter of 1 $\mu$ m or less in the polyolefin and to finish the composition in the form of pellets.

'570 discloses forming a polyolefin, polyamide resin with a silane-coupling agent dispersed in the form of fibers with an average fiber diameter of 1 $\mu$ m or below comprising melting, kneading and extruding and drafting the resin then stretching and rolling to form pellets in which the polyamide are dispersed in the form of fibers to form a resin composition with excellent rigidity, strengths and creep resistance and having low density. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed a resin with an average fiber diameter of 1 $\mu$ m or less in the polyolefin because '570 teaches this method to form a resin with improved rigidity and strength (Abstract).

3. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Amimoto et al. '104 (US 5,424,104) as applied to claim 1 above, and further in view of Yamamoto et al. '431 (JP 09-059431).

With respect to claim 2, '104 discloses a method of manufacturing polyolefin-polyamide resin composition however '104 does not disclose a first of melting and kneading the polyolefin, silane coupling agent, and antioxidants, a second step of melting and kneading the polyamide at a temperature greater than the melting point of the polyolefin, a third step of melting and kneading the polyamide into the mixture of the first step, at a temperature equal to the melting point of the polyamide, and extruding a product, a fourth step of drawing or rolling the extruded product at a temperature higher

than the melting point of the polyolefin and lower than the melting point of the polyamide.

'431 discloses a method to produce a fiber-reinforced thermoplastic resin with improved mobility, impact, resistance, rigidity and strengths. The method comprising mixing a polyolefin, a silane-coupling agent, and a rubbery polymer, then melt-kneading the polyolefin mixture with a polyamide at a temperature higher than the melting point of the polyamide or the polyolefin and extruding a product, and a final step of drawing and rolling the extruded product at a temperature equal to or lower than the melting point of the polyamide. The second step of melt-kneading the polyamide alone before melt-kneading it with the polyolefin mixture is not explicitly stated; however it is understood that for the two polymer mixtures to be melt-kneaded they must both be melted.

Furthermore '431 disclose keeping the polyamide as well as the polyolefin above their melting point temperatures. It would have been obvious to one of ordinary skill in the art to melt-knead the polyamide and polyolefin at a temperature higher than their respective melting points and to draw or roll the extruded product at a temperature lower than the melting point of the polyamide because '431 teaches this method in order to produce a fiber-reinforced thermoplastic resin with improved mobility, impact resistance and rigidity (Abstract).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jodi Cohen whose telephone number is 571-270-3966. The examiner can normally be reached on Monday-Friday 7:00am-5:00pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/  
Supervisory Patent Examiner, Art  
Unit 1791

Jodi Cohen